The Role of Emotional Dysregulation in Perfectionism and Psychological Distress

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Data from a sample of university students (N = 349) were used to test a model in which emotional dysregulation (a composite of emotional reactivity and splitting) was expected to account for the effect of perfectionism on general psychological distress. Significant positive effects were observed between maladaptive perfectionism and distress, whereas significant inverse effects were found for adaptive perfectionism. Structural equations analyses revealed support for a possibly mediational role of emotional dysregulation. Future research suggestions as well as counseling recommendations are proposed that target emotional regulatory features of the client with perfectionistic tendencies.

Keywords: perfectionism, emotional regulation, psychological distress

An impressive literature supports a view of perfectionism as a multidimensional construct (Flett & Hewitt, 2002; Frost, Marten, Lahart, & Rosenblate, 1990; Slaney, Rice, Mobley, Trippi, & Ashby, 2001). Factor analyses of several measures of perfectionism and cluster analyses have indicated two major dimensions of perfectionism, with both data-analytic approaches supporting the contention of adaptive or positive and maladaptive or negative aspects of perfectionism (Frost, Heimberg, Holt, Mattia, & Neubauer, 1993; Rice, Ashby, & Slaney, 1998; Rice & Slaney, 2002; Slaney, Ashby, & Trippi, 1995). Maladaptive aspects typically include excessive concerns about making mistakes, self-evaluations that are overly critical, and worries about reaching unrealistically high standards for performance. Similar to the maladaptive aspects, adaptive perfectionistic aspects emphasize high personal standards and the desire to excel in performance to meet such standards, yet these desires and standards are experienced as motivational and encouraging. Perceived failures to meet such standards are tolerated and do not lead to intra- and interpersonal turmoil.

Maladaptive perfectionism has been associated with numerous psychological difficulties (Blatt, 1995; Flett & Hewitt, 2002) including different types of mood and performance concerns. For example, E. J. Brown et al. (1999) found this type of perfectionism to be related to educational outcomes such as concern over course difficulty, increased anxiety, and increased negative mood. Students with perfectionistic tendencies are inclined to procrastinate and to express increased negative affect related to evaluated tasks (Flett, Blankstein, Hewitt, & Koledin, 1992). Indeed, research supports that unlike adaptive perfectionism, maladaptive perfectionism has been unquestionably associated with decreased self-esteem and self-confidence, insecure relationships, and self-doubt regarding academic success (Ashby, Rice, & Martin, 2006; E. J. Brown et al., 1999; Grzegorek, Slaney, Franze, & Rice, 2004; Parker, 1997; Rice & Dello, 2002; Rice, Lopez, & Vergara, 2005). Adaptive perfectionism has been linked with low levels of stress and anxiety, positive academic and social adjustment to college, secure relationships, and overall satisfactory emotional and psychological well-being (Ashby & Rice, 2002; Rice & Dello, 2002; Rice et al., 2005).

Although links between perfectionism and a wide variety of disorders have been found, research has focused mostly on the direct association between perfectionism and different psychological problems. Blankstein and Dunkley (2002) referred to a more complex relationship between perfectionism and psychological distress. They suggested that perfectionistic individuals may have poor strategies for coping with perceived distressing events and that such a mediating mechanism could account for the relationship between perfectionism and distress. Indeed, Blankstein and Dunkley (2002) found that the relation between self-critical perfectionism and distress was fully mediated by coping.

Coping strategies represent behavioral and cognitive efforts to deal with stressful encounters (Lazarus & Folkman, 1984). Among other things, coping is thought to have stress management effects through a reciprocal association with enhanced emotional regulation, an aspect of psychological functioning that has not been thoroughly examined in studies of perfectionism. P. M. Cole, Michel, and Teti (1994) proposed that the regulation of emotion is “the ability to respond to the ongoing demands of experience with a range of emotions in a manner that is socially tolerable and sufficiently flexible to permit spontaneous reactions, including the ability to delay spontaneous reactions as needed” (p. 76). Emotional regulation consists of both intrinsic and extrinsic processes that are responsible for learning to recognize, monitor, evaluate, and modify emotional reactions (R. A. Thompson, 1994) and includes strategies to maintain, enhance, subdue, and inhibit emo-
tions in attempting to accomplish goals (Denham, 1998). Folkman and Lazarus (1980) suggested that in any stressful situation, a person must deal with both the demands of the situation itself and the emotional consequences that it generates. In fact, the effectiveness of efforts to tackle the problem itself is dependent to a large extent on an individual’s ability to regulate his or her emotional responses. Although a certain degree of emotional arousal may facilitate coping, excess or inappropriate emotion may interfere with clear thinking, planning, and effective problem solving (Folkman, 1984). Thus, regulating emotions is crucial to having access to a greater number of adaptive responses and to enhancing flexible and appropriate responses to various situations and challenges. Inability to regulate emotions can result in deleterious emotional arousal and in the misidentification and misdirection of emotions, thereby hindering one’s ability to function adaptively and appropriately.

Empirical research on perfectionism and emotional regulation is rather scarce. Tangney (2002) suggested that because perfectionistic individuals focus a great deal of energy on self-evaluations, they are prone to experiencing emotions such as shame, guilt, and embarrassment, a speculation supported by some recent research (Ashby et al., 2006). Because maladaptive perfectionists evaluate themselves against daunting and perhaps unrealistic standards, they tend to classify a broad range of outcomes as failures. Thus, people who are maladaptive perfectionists are likely to experience negative self-evaluative emotions. G. P. Brown and Beck (2002) pointed out that perfectionists react emotionally to how they subjectively represent the events in their lives.

In the present study, we focused on emotional regulation, not only because of its conceptual ties to coping but also because of its relationship with attachment. More specifically, emotional regulation has emerged as an important outcome in the research on child and adult attachment, and attachment appears to play a significant role in the development of perfectionism. The logical implication is that a relationship between perfectionism and emotional regulation is highly probable, a contention also suggested in the literature on perfectionism (G. P. Brown & Beck, 2002; Tangney, 2002). Although attachment is not the focus of this article, to clarify the link between perfectionism and emotional regulation, we review findings from two lines of research. The findings reveal that (a) there is a significant link between perfectionism and attachment, with attachment styles appearing to play a significant role in the development of perfectionism, and (b) certain attachment styles have been associated with emotional regulation.

Rice and Mirzadeh (2000) found that adaptive perfectionists had more secure attachment to both parents, whereas maladaptive perfectionists exhibited high parental criticism, a relational dynamic associated with the development of an insecure attachment bond (Blatt, 1995). More recently, Wei, Mallinckrodt, Russell, and Abraham (2004), Rice et al. (2005), and Shea, Slaney, and Rice (2006) reported moderate and positive associations between maladaptive perfectionism and avoidant and anxious adult attachment. Thus, previous studies have provided evidence that attachment anxiety and avoidance are positively associated with perfectionism, especially in its maladaptive form. In terms of affective consequences, it has been established that people who have problematic attachment styles are prone to dysregulated emotional patterns. For example, children with an anxious or ambivalent attachment style often show an amplification of negative affective expression, resulting in problematic behaviors such as neediness, clingingness, hostility, and withdrawal (Fuendeling, 1998; Magar & Hunziker, 1993). Children with avoidant attachment tend to experience negative emotions surrounding real or perceived rejection, and as a consequence, they learn to turn off the expression of negative affect by avoiding close relationships. Thus, when emotional connections are disturbed, as is the case with insecure attachments, emotional development may be impaired or delayed, resulting in subsequent emotion dysregulation. Emotional reactivity and psychological splitting are two indicators of maladaptive emotional regulation, and both have been linked to attachment. Emotional reactivity refers to excessive emotional lability associated with frequent changes or swings in emotions and mood (Skowron & Friedlander, 1998). Emotional reactivity also has been referred to in different studies as an overreactive strategy in which individuals amplify their negative feelings to elicit support from others and ensure the availability of others (Cassidy, 2000; Shaver & Mikulincer, 2002). In support of this model, Wei, Vogel, Ku, and Zakalik (2005) found that the association among attachment anxiety, negative mood, and interpersonal problems was mediated by emotional reactivity.

Another indicator of emotional dysregulation, splitting, was defined as a form of ego defense characterized by an individual’s failure to integrate good and bad images of self and others (Kernberg, 1976). As a result, individuals who are prone to using this defense mechanism are unable to view themselves or others in a whole fashion that requires accepting both positive and negative attributes of oneself, a difficulty that leads to high emotional costs such as dramatic mood swings and volatile emotional states. Lopez (2001) found that insecure adult attachment orientations (i.e., high levels of anxiety and avoidance) were related to splitting tendencies and emotional reactivity, with effect sizes in the moderate to large range. Thus, in the present study, the construct of emotional dysregulation was operationalized with measures of emotional reactivity and psychological splitting.

To summarize, perfectionism has been fairly consistently linked to the quality of parent–child attachment bonds and contemporaneous adult attachment orientations, whereas the latter has been clearly associated with problematic emotional regulation strategies. Indeed, some have suggested that perfectionism might be (Harter, 1998; Saarni, Mumme, & Campos, 1998) or might trigger (Flett & Hewitt, 2002) an emotional regulatory response that in turn affects psychological well-being, for good or bad. Although no study to date has examined this model directly (perfectionism activating emotional regulation, which in turn affects psychological distress), some research has examined mediators of perfectionism–adjustment associations relevant to such a model (Dunkley, Zuroff, & Blankstein, 2003).

The current study builds from and extends research by Dunkley and his colleagues (Dunkley, Blankstein, Halsall, Williams, & Winkworth, 2000; Dunkley et. al., 2003). They used a factor analytic approach to identify a Self-Critical Perfectionism factor (presumably negative or maladaptive) and a Personal Standards factor (presumably positive or adaptive) and tested these factors in models of stress and coping. Dunkley et al. (2003) found that the Personal Standards factor was unrelated to any of the study variables (i.e., avoidant coping, event stress, perceived social support, negative or positive affect) and dropped the factor from their models. However, in their earlier study, Dunkley et al. (2000)
found that Personal Standards Perfectionism was associated with active coping, and in both studies, this dimension was substantially and positively associated with Self-Critical Perfectionism. Given some inconsistency in the findings regarding coping and the apparent overlap between what would presumably be conceptually different factors, a Personal Standards Perfectionism factor was also included in the present study. Thus, some of the prior findings in the literature can be replicated in this study, and the possible utility of Personal Standards Perfectionism in models with different emotional regulation and psychological functioning constructs reconsidered. Because several studies have found high Personal Standards Perfectionism to be positively associated with coping or other indicators of likely corresponding healthy emotional regulation, such as self-esteem and secure attachment, we expected this dimension of perfectionism to be associated with better emotional regulation and psychological adjustment (Dunkley et al., 2000; Grzegorek et al., 2004; Mobley, Slaney, & Rice, 2005; Rice & Lapsley, 2001) whereas Self-Critical Perfectionism was expected to be associated with greater emotional dysregulation and psychological distress (Dunkley et al., 2000, 2003; Wei, Heppner, Russell, & Young, 2006).

Although emotional dysregulation has been linked conceptually to perfectionism and has been linked both conceptually and empirically to psychological distress, a more comprehensive model linking all three constructs has not yet been empirically tested. The present study was designed primarily to test a model in which emotional dysregulation would account for the association between perfectionism and psychological distress. Because of the negative valence of the emotional regulation construct as operationalized, the primary hypotheses were that maladaptive perfectionism (operationalized as Self-Critical Perfectionism) would relate positively to emotional dysregulation, and adaptive perfectionism (operationalized as Personal Standards Perfectionism) would relate negatively to emotional dysregulation. Maladaptive perfectionism was expected to be positively associated with psychological distress, and adaptive perfectionism was expected to be negatively associated with such distress. The main hypothesis in this study was that the association between perfectionism and distress would be mediated by emotional dysregulation. Comparing models that included and then excluded the direct effects from perfectionism to psychological distress tested this hypothesis.

**Method**

**Participants and Procedure**

Participants were students at two large public universities in the Midwest (United States) and were recruited from multiple sections of psychology courses (general psychology, psychology of adjustment, personality, abnormal psychology). For the general psychology sections, participants were recruited through standard procedures of posting study information on a Web site on which students could indicate their interest in participating. Study information consisted of a brief description of the study (e.g., “the purpose of the study is to learn about the association between personality and different forms of college adjustment”) and participation expectations (e.g., “completion of a set of questionnaires”). In other classes, recruitment occurred by research assistants visiting the classes and distributing a written summary of information similar to what the general psychology students accessed. Students indicated interest in participating on a sign-up sheet that was also distributed during the class-room visits. No data collection occurred during recruitment. Instead, all interested participants had to attend scheduled sessions to complete the instrument packets. Measures were administered to participants in small groups during these sessions. Different sequences of the measurement packet were used to help control for any order effects. A test of the homogeneity of variance revealed no significant differences among the covariance matrices between the three measurement sequences used, Box’s $M = 216.34, p > .10$. Although incentives varied somewhat for students in different classes, students in both university settings received some form of either course credit or extra credit for research participation, depending on the preference of the instructors. Complete and final enrollment figures for all sections of all classes were not collected, so actual participation rates could not be calculated.

There were a total of 349 participants (76 men and 273 women) in the sample. Participants ranged in age from 18 to 41 ($M = 19.74, SD = 1.84$). Approximately 71% of the sample was White/European American, 9% Asian/Asian American, 9% Black/African American, and 8% Latino/Latina, and 2% described themselves as multicultural mixed race/ethnicity. After deletion of missing data (see below), we found no significant differences in the sex or in the racial or ethnic distribution of students at the two universities, $\chi^2(1, N = 346) = 0.23, p > .05$, and $\chi^2(4, N = 346) = 1.91, p > .05$. Average age was different at the two universities, $M = 20.28$ ($SD = 2.36$) versus $M = 19.90$ ($SD = 1.43$), $t(344) = 3.05, p < .005$. Correcting for multiple tests, we found that age was not significantly correlated with scores from any of the study measures (rs ranged from 0.001 to 0.134). A multivariate analysis of variance revealed no significant differences between the universities on study measure scores, Wilk’s $\lambda = 0.963, F(8, 337) = 1.64, p > .05$.

**Instruments**

*Perfectionism.* Two measures of perfectionism were used. The Frost Multidimensional Perfectionism Scale (FMPS; Frost, Marten, Lahart, & Rosenblate, 1990) is a self-report questionnaire that contains 35 items and six subscales: Concerns Over Mistakes (9 items), Personal Standards (7 items), Parental Criticism (4 items), Parental Expectations (5 items), Doubts About Actions (4 items), and Organization (6 items). Items are rated on a 5-point scale (from 1 = disagree strongly to 5 = agree strongly). Cronbach’s coefficient alphas for the FMPS subscales range from .70 to .93 in college student samples (Frost, Lahart, & Rosenblate, 1991; Rice & Mirzadeh, 2000). Scores on the FMPS relate in expected directions with other measures of perfectionism and with measures of emotional functioning (Frost, Heimberg, Holt, Mattia, & Neubauer, 1993; Rice, Ashby, & Slaney, 1998). Scores from the Concerns Over Mistakes and Doubts About Actions subscales were used as indicators of maladaptive perfectionism, and the score from the Personal Standards subscale was used as an indicator of adaptive perfectionism.

The Hewitt and Flett (1991; Hewitt, Flett, Turnbull-Donovan, & Micik, 1991) Multidimensional Perfectionism Scale (MPS) consists of 45 self-report items tapping three dimensions of perfectionism (15 items measure each dimension): Self-Oriented, Other-Oriented, and Socially Prescribed Perfectionism. The Self-Oriented Perfectionism subscale measures high self standards and excessive motivation for personal perfection. The Other-Oriented Perfectionism subscale measures unrealistic expectations that significant others be perfect. Socially Prescribed Perfectionism subscale taps the beliefs that others are imposing their perfectionistic standards on oneself. Participants rate their agreement with items using a 7-point scale (from 1 = disagree to 7 = agree), with higher scores indicating greater levels of perfectionism. Cronbach’s coefficient alphas have ranged from .79 to .89 for the three subscales. Test–retest reliabilities (3 months) ranged from .75 to .88 (Hewitt & Flett, 1991). Factor analyses have supported three factors that correspond with the three dimensions. Because higher order factor analyses have found support for the Self-Oriented Perfectionism dimension loading on a positive striving factor, whereas the Socially Prescribed Perfectionism dimension was related to a maladaptive evalua-
tion concerns dimension (Frost et al., 1993), those two subscales were used as respective indicators of adaptive and maladaptive perfectionism in the current study. The MPS subscales correlate in expected directions with similar and dissimilar measures and constructs (Flett, Hewitt, Blanstein, & Koleedin, 1991; Hewitt & Flett, 1991; Hewitt et al., 1991).

Psychological distress. The Brief Symptom Inventory (BSI; Derogatis, 1993) is a 53-item questionnaire designed to measure psychological symptons. Respondents rate symptom items on the BSI using a scale of 0 (not at all) to 4 (extremely). Nine symptom dimensions and three global distress subscales are typically scored. The symptom dimensions/subscales are labeled Somatization (7 items), Obsessive–Compulsive (6 items), Interpersonal Sensitivity (4 items), Depression (6 items), Anxiety (6 items), Hostility (5 items), Phobic Anxiety (5 items), Paranoid Ideation (5 items), and Psychoticism (5 items). Scores from the BSI have been shown to relate in expected directions with other measures of psychological symptoms and personality, such as the Minnesota Multiphasic Personality Inventory (Boulet & Boss, 1991; Derogatis, 1993). Concurrent and predictive validity has been established in studies that found the BSI correctly identifies those who are psychologically distressed at the time of the testing as well as those likely to be distressed up to 1 year later (see Derogatis, 1993).

Among college students, the BSI scores have been shown to negatively correlate with social support (Sandler & Barrera, 1984). Hayes (1997) found support for a six- rather than nine-factor solution in a nationwide study of university counseling center clients. His results and recommended scoring of the BSI seemed more relevant for the current sample, and therefore the BSI was rescored following his guidelines. The six subscales used were Somatization (7 items), Obsessive–Compulsive (6 items), Social Comfort (8 items), Depression (7 items), Hostility (5 items), and Phobic Anxiety (5 items). Hayes (1997) reported internal consistency estimates ranging from .70 to .89 for his reconstituted set of BSI subscales and found correspondence between scores derived from his recommended resoring of the BSI and the endorsement of specific difficulties on a problem checklist completed by the clients. The subscale scores appear to have adequate internal consistency and validity. In another study and college counseling center sample, Cronbach’s coefficient alphas ranged from .71 to .90 (Hayes & Mahalik, 2000). Further support for a somewhat different six-factor solution was found by Ruizpérez, Ibáñez, Lorente, Moro, and Ortet (2001) in a study investigating the reliability and validity of the Spanish adaptation of the BSI in a nonclinical sample. More than 40% of the Ruizpérez et al.’s sample consisted of undergraduate psychology students. Five of the six factors that emerged in that study were comparable to those that Hayes (1997) reported (the exception was that Hayes found a Social Comfort factor, and Ruizpérez et al. found a Paranoid Ideation factor). Adequate Cronbach’s coefficient alphas emerged for the five BSI scales that were comparable to the Hayes results (between .70 and .91), and the scales related in the expected direction with various dimensions of personality and adjustment (extraversion and neuroticism).

It is important to note that the BSI was used as a measure of psychological symptoms or psychological distress. The interest in determining the subset of scales from the BSI to use was simply an effort to obtain a set of reliable indicators that could approximate a psychological distress latent variable akin to the Global Severity Index (GSI) typically scored on the BSI. In fact, after standardizing and then summing those six subscale scores, the raw distress composite score was substantially correlated with the GSI score (r = .98). In addition, the BSI manual provides norms for adult psychiatric outpatients and inpatients, adult nonpatients, and adolescents but does not provide norms for college students. Moreover, college students tend to report a different pattern of distress than do adolescents or adults (Cochran & Hale, 1985), possibly explaining some of the findings that emerged from the mixed sample of college students and community residents in the Ruizpérez et al. (2001) study. In the context of the present research, therefore, the six-factor solution found by Hayes (1997) in a large sample of college students seemed relevant and appropriate for the current study purposes.1

Emotional dysregulation. Two measures of emotional dysregulation were used. The Emotional Reactivity subscale of the Differentiation of Self Inventory (Skowron & Friedlander, 1998) is an 11-item self-report measure that reflects the degree to which a person responds to environmental stimuli with emotional flooding and lability. Higher scores on the scale reflect difficulty remaining calm in emotionally charged relational and decision-making situations. Scores from the subscale appear to have adequate internal consistency and validity, with Cronbach’s coefficient alphas ranging from .73 to .88 in several samples (Skowron & Friedlander, 1998; Tuason & Friedlander, 2000). In addition, research showing that higher scores on the Emotional Reactivity subscale are correlated with greater general psychological distress suggests that it could be an appropriate mediator for purposes of the present study.

The Splitting Index (SI; Gould, Prentice, & Ainsle, 1996) is a 24-item self-report instrument that assesses “splitting,” defined as a defense mechanism leading to unstable interpersonal patterns and volatile emotional states. Items are rated on a 5-point scale (from 1 = strongly disagree to 5 = strongly agree), with higher scores indicating greater levels of defensive splitting. Gould et al. (1996) reported an alpha coefficient of .93 for the full scale and test-retest reliability over a 4-week period of .86. Convergent validity was supported by significant correlations with measures of borderline and narcissistic personality disorders, self-image stability, self-esteem, depression, and negative affectivity. Discriminant validity was shown by the near-zero correlations with scores on two measures of cognitive complexity.

Results

Descriptive Statistics and Preliminary Analyses

Three participants with missing data were eliminated from further analyses. Remaining data were checked for normality. Results revealed univariate normality for all measured variables except three of the BSI subscales: Somatization (skewness Z = 1.70; kurtosis Z = 2.68), Hostility (skewness Z = 1.58; kurtosis Z = 2.99), and Phobic Anxiety (skewness Z = 3.22; kurtosis Z = 12.65). A square-root transformation for these variables resulted in skewness Z = .42 and kurtosis Z = −.67 for Somatization, skewness Z = .05 and kurtosis Z = .08 for Hostility, and skewness Z = 1.27 and kurtosis Z = 1.01 for Phobic Anxiety. The correlations between the original and the transformed variables ranged from .92 to .94. The transformed BSI subscales were used in the subsequent analyses. We assessed multivariate normality using Mahalanobis distances for the 13 transformed and nontransformed variables. The critical chi-square value for this test was 34.53. Three participants had Mahalanobis distance values that exceeded the critical value and were therefore dropped, leaving a sample of 343 for further analyses.

Wilkinson and American Psychological Association Task Force on Statistical Inference (1999) indicated that authors should provide reliability coefficients of the scores for the data being analyzed. Thus, all scores used in the present study were assessed for internal consistency. Cronbach’s coefficient alphas as well as overall sample descriptive statistics and scale intercorrelations are presented in Table 1. The results revealed adequate internal consistency for the scores, with Cronbach’s coefficient alphas ranging

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1 The nine-dimension scoring of the BSI was also examined and, in the measurement and structural models, resulted in only slightly different parameter estimates or fit indices. Therefore, the more parsimonious six-dimension scoring described by Hayes (1997) was used.
from .67 to .90. As would be expected, correlations of scores within the same constructs tended to be greater than scores between different constructs. Within-construct score correlations typically were in the range of medium to large effect sizes. These correlations and the means and standard deviations were consistent with other studies of college students who completed the same

### Mediator Analyses

The two-step procedure recommended by Anderson and Gerbing (1988) was followed to analyze the proposed mediation model. Confirmatory factor analysis (CFA) was used to test the adequacy of the current study’s measurement model before conducting tests of the structural models. The measurement and the structural models were estimated using the maximum likelihood method in the LISREL Version 8.54 program (Scientific Software International, Lincolnwood, IL) and were evaluated on the basis of the chi-square test and several other fit indices: standardized root-mean-square residual (SRMR), root-mean-square error of approximation (RMSEA), and comparative fit index (CFI). According to Hu and Bentler (1999), guidelines for values indicative of a good-fitting model are CFI greater than .95, SRMR less than or equal to .08, and RMSEA less than or equal to .06 (a good fit) or greater than .06 and less than or equal to .08 (a fair fit). The sample size was adequate for the models tested. On the basis of the number of parameters to be estimated, the null hypothesis of not-close fit (from the RMSEA and p < .05), and other guidelines from MacCallum, Browne, and Sugawara (1996), we estimated the power from the current sample size to be approximately .98.

CFA was used to replicate the factor structure that emerged in other studies of perfectionism (e.g., Dunkley et al., 2003) and to test the adequacy of the measurement model in the current study before conducting tests of the structural models. The CFA model consisted of four latent constructs and 13 observed variables. The maladaptive Self-Critical Perfectionism construct was composed of loadings from the FMPS Concerns Over Mistakes and Doubts About Actions subscales and the MPS Socially Prescribed Perfectionism subscale. The latent factor of adaptive Personal Standards

### Table 1

**Means, Standard Deviations, Reliability Estimates, and Subscale Score Correlations**

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Min</th>
<th>Max</th>
<th>M</th>
<th>SD</th>
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<td>1. Concerns Over Mistakes</td>
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<td>41</td>
<td>21.36</td>
<td>6.03</td>
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<td>2. Doubts About Actions</td>
<td>4</td>
<td>17</td>
<td>9.72</td>
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<td>.67</td>
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<td>3. Socially Prescribed Perfectionism</td>
<td>18</td>
<td>82</td>
<td>51.16</td>
<td>12.40</td>
<td>.60</td>
<td>.40</td>
<td>.84</td>
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<td>4. Personal Standards</td>
<td>10</td>
<td>35</td>
<td>24.22</td>
<td>4.69</td>
<td>.44</td>
<td>.16</td>
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<td>5. Self-Oriented Perfectionism</td>
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<td>105</td>
<td>68.92</td>
<td>14.89</td>
<td>.50</td>
<td>.20</td>
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<td>.68</td>
<td>.90</td>
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<td>.38</td>
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<td>.09</td>
<td>.51</td>
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<td>8. Somatization</td>
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<td>3.86</td>
<td>.96</td>
<td>.82</td>
<td>.23</td>
<td>.19</td>
<td>.16</td>
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<td>9. Obsessive–Compulsive</td>
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<td>.43</td>
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<td>10. Social Comfort</td>
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<td>.66</td>
<td>.60</td>
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<td>.63</td>
<td>.83</td>
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<tr>
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<td>.88</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Hostility</td>
<td>.00</td>
<td>3.33</td>
<td>1.11</td>
<td>.72</td>
<td>.24</td>
<td>.21</td>
<td>.30</td>
<td>.06</td>
<td>.13</td>
<td>.35</td>
<td>.57</td>
<td>.57</td>
<td>.52</td>
<td>.59</td>
<td>.56</td>
<td>.74</td>
<td></td>
</tr>
<tr>
<td>13. Phobic Anxiety</td>
<td>.00</td>
<td>3.40</td>
<td>.25</td>
<td>.48</td>
<td>.18</td>
<td>.12</td>
<td>.17</td>
<td>.07</td>
<td>.11</td>
<td>.23</td>
<td>.24</td>
<td>.52</td>
<td>.48</td>
<td>.48</td>
<td>.53</td>
<td>.49</td>
<td>.76</td>
</tr>
</tbody>
</table>

Note. N = 343. Cronbach’s coefficient alphas appear in italics on the diagonal. |r| > .09, p < .05, and |r| > .16, p < .001, one-tailed tests. A square root transformation was performed for Somatization, Hostility, and Phobic Anxiety, and the transformed variables were used in the subsequent analyses (the correlations between the original and the transformed variables ranged from .92 to .94). Min = minimum; Max = maximum.
associated with the Doubts About Actions scores. Also, the largest modification index indicated a problem with misspecification that involved the Doubts About Actions subscale. To further justify changing the model, we should note that the Doubts About Actions score was somewhat less reliable than other scores in the study. Furthermore, in their critique of perfectionism conceptualizations and measures, Shafran and Mansel (2001) argued that “it may be better to consider doubts about actions as a symptom of OCD [obsessive–compulsive disorder] rather than as part of perfectionism” (p. 894) because the items for the Doubts About Actions subscale were adopted from a measure of obsessive–compulsive disorder.

Given these empirical and conceptual justifications, the Doubts About Actions subscale was dropped from the measurement model, and supporting this decision, the re-estimated model revealed a slightly improved fit over the prior model, \( \chi^2(48, N = 343) = 152.80, p < .001; \) SRMR = .047, RMSEA = .083 (CI = .069, .097), and CFI = .97. Although fit could be improved by making some additional empirically derived modifications to the model, there were no further substantive arguments that we could develop to justify altering this model further; making model changes would result in only very modest improvements on an already reasonably fitting model. According to the re-estimated model, all of the pattern coefficients of the measured variables on the latent variables were again statistically significant: .79 and .76 (Self-Critical Perfectionism), .75 and .90 (Personal Standards Perfectionism), .75 and .68 (Emotional Dysregulation), and .59–.85 for the six indicators of Psychological Distress.

Table 2

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Self-Critical Perfectionism</th>
<th>Personal Standards Perfectionism</th>
<th>Emotional Dysregulation</th>
<th>Psychological Distress</th>
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<tbody>
<tr>
<td>CM</td>
<td>.82</td>
<td>.83</td>
<td>0</td>
<td>.54</td>
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<tr>
<td>DA</td>
<td>.59</td>
<td>.60</td>
<td>0</td>
<td>.38</td>
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<tr>
<td>SPP</td>
<td>.74</td>
<td>.73</td>
<td>0</td>
<td>.47</td>
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<tr>
<td>PS</td>
<td>0</td>
<td>.49</td>
<td>.76</td>
<td>.76</td>
</tr>
<tr>
<td>SOP</td>
<td>0</td>
<td>.59</td>
<td>.90</td>
<td>.92</td>
</tr>
<tr>
<td>SI</td>
<td>0</td>
<td>.49</td>
<td>0</td>
<td>.13</td>
</tr>
<tr>
<td>ER</td>
<td>0</td>
<td>.45</td>
<td>0</td>
<td>.12</td>
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<tr>
<td>DEP</td>
<td>0</td>
<td>.48</td>
<td>0</td>
<td>.18</td>
</tr>
<tr>
<td>SC</td>
<td>0</td>
<td>.49</td>
<td>0</td>
<td>.19</td>
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<tr>
<td>OC</td>
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<td>.42</td>
<td>0</td>
<td>.16</td>
</tr>
<tr>
<td>PA</td>
<td>0</td>
<td>.34</td>
<td>0</td>
<td>.13</td>
</tr>
<tr>
<td>SOM</td>
<td>0</td>
<td>.34</td>
<td>0</td>
<td>.13</td>
</tr>
<tr>
<td>HOS</td>
<td>0</td>
<td>.38</td>
<td>0</td>
<td>.15</td>
</tr>
</tbody>
</table>

Note. \( N = 343. \) Pattern coefficients constrained and not estimated in the model are presented as “0.” \( r_s \) = structure coefficients. CM = Concerns Over Mistakes; DA = Doubts About Actions; SPP = Socially Prescribed Perfectionism; PS = Personal Standards; SOP = Self-Oriented Perfectionism; SI = Splitting Index; ER = Emotional Reactivity; DEP = Depression; SC = Social Comfort; OC = Obsessive-Compulsive; PA = Phobic Anxiety; SOM = Somatization; HOS = Hostility.

Table 3

<table>
<thead>
<tr>
<th>Latent variable</th>
<th>Self-Critical Perfectionism</th>
<th>Personal Standards Perfectionism</th>
<th>Emotional Dysregulation</th>
<th>Psychological Distress</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Critical Perfectionism</td>
<td><strong>.70</strong></td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Personal Standards Perfectionism</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Emotional Dysregulation</td>
<td><strong>.62</strong></td>
<td>.16*</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Psychological Distress</td>
<td><strong>.54</strong></td>
<td>.23**</td>
<td>.79**</td>
<td>—</td>
</tr>
</tbody>
</table>

Note. All correlations were corrected for measurement error. * \( p < .01, \) one-tailed. ** \( p < .001, \) one-tailed tests.
unity, then the correlation can be assumed to significantly differ from 1.0 and therefore would evidence discriminant validity between the constructs (Baggozi & Phillips, 1982).

The highest correlation between latent variables occurred for Emotional Dysregulation and Psychological Distress ($r = .79$). Therefore, a model was tested in which the path between Emotional Dysregulation and Psychological Distress was constrained to 1.0, $\chi^2(49, \ N = 343) = 180.01, \ p < .001$; SRMR = .052, RMSEA = .094 (CI = .080, .110), and CFI = .96. A significant difference in fit was found between this model and the model in which the correlation between Emotional Dysregulation and Psychological Distress was freely estimated, $\Delta \chi^2(1, \ N = 343) = 27.21, \ p < .001$. Results indicated that although the two constructs were significantly correlated, their overlap did not rise to a threshold of concern regarding discriminant validity.

The initial structural model consisted of two exogenous or independent factors (Self-Critical Perfectionism and Personal Standards Perfectionism) and two endogenous or dependent factors (Emotional Dysregulation and Psychological Distress), with Emotional Dysregulation as the mediating construct. Baron and Kenny (1986) and Holmbeck (1997) suggested that mediation requires three effects: a significant association between the predictor and the mediator, a significant relationship between the mediator and the outcome, and a relationship between the predictor and the outcome that should significantly decrease when testing the mediated effect. However, MacKinnon, Lockwood, Hoffman, West, and Sheets (2002), in a study comparing 14 methods to test mediation, found that the commonly used Baron and Kenny’s (1986) approach has low statistical power. As an alternative, Shrout and Bolger (2002) recommended using a bootstrap procedure to develop CI estimates for indirect effects. The bootstrap test determines whether the sampling distribution of mediated effects is different from zero, and this was the approach for assessing mediation used in the present study.

To examine the direct relationship between perfectionism and distress, we tested a model that did not include the mediator but only the direct paths from Self-Critical Perfectionism and Personal Standards Perfectionism to Psychological Distress, $\chi^2(32, \ N = 343) = 99.66, \ p < .001$; SRMR = .043, RMSEA = .079 (CI = .062, .097), and CFI = .97. The results revealed that Self-Critical Perfectionism was significantly and positively related to Psychological Distress ($\gamma = .74$), whereas Personal Standards Perfectionism was significantly and inversely associated with Psychological Distress ($\gamma = -.29$). In addition to the significant direct effects observed in this model, two things were of particular note when these results were compared with the measurement model. The significantly negative direction of the effect from Personal Standards Perfectionism to Psychological Distress was in contrast with the significantly positive direction of the correlation between these two constructs in the measurement model. Also, the size of the association between Self-Critical Perfectionism and Psychological Distress was much larger than the size of the correlation between these constructs in the measurement model. Both of these suggest the possibility of suppression effects in light of the substantial correlation between Self-Critical Perfectionism and Personal Standards Perfectionism in the measurement model ($r = .70$) and the very modest correlation between Personal Standards Perfectionism and Psychological Distress ($r = .23$). The issue of suppression is considered later in more detail.

The direct and indirect effects model tested included the direct effect from the two dimensions of Perfectionism on Psychological Distress and the indirect or mediated paths from the two dimensions of Perfectionism to Emotional Dysregulation to Psychological Distress. This model is statistically equivalent to the confirmatory measurement model, as evidenced by the identical fit statistics: $\chi^2(48, \ N = 343) = 152.80, \ p < .001$; SRMR = .047, RMSEA = .083 (CI = .069, .097), and CFI = .97. The examination of the parameter estimates indicated statistically significant path coefficients from Self-Critical Perfectionism ($\gamma = .98$) and Personal Standards Perfectionism ($\gamma = -.52$) to Emotional Dysregulation and from Emotional Dysregulation to Distress ($\beta = .77$). However, the paths from the two dimensions of Perfectionism to Psychological Distress were not significant.

In the next step, a more parsimonious model was tested (the mediational model) with the path coefficients from Self-Critical Perfectionism and Personal Standards Perfectionism to Psychological Distress constrained to zero (see Figure 1). The null hypothesis is that there is no difference between the model that includes the direct effects from Perfectionism to Psychological Distress and the model that eliminates these direct effects (the fully mediated model). The results for this modified model showed a fairly good fit to the data as well, $\chi^2(50, \ N = 343) = 156.23, \ p < .001$; SRMR = .049, RMSEA = .081 (CI = .068, .095), and CFI = .97. A chi-square difference test was used to compare the full model with the modified, completely-mediated model. Results showed that there was no difference in fit for the two models, $\Delta \chi^2(2, \ N = 343) = 3.43, \ p > .05$, suggesting that Emotional Dysregulation fully mediated the relationship between Perfectionism and Psychological Distress.

As recommended by Frazier, Tix, and Barron (2004), we conducted tests of the significance of the indirect effects in the full mediation model. We used statistical procedures recommended by Shrout and Bolger (2002) and described in recent research by Wei and her colleagues (Wei, Russell, & Zakalik, 2005; Wei, Shaffer, Young, & Zakalik, 2005) to create 95% CIs around the estimates of indirect effects. We created 1,000 random (with replacement) bootstrap samples ($N = 343$ each) from the original data and used those samples in 1,000 analyses of the mediation model. The resulting 1,000 path coefficient estimates were then used to calculate the two indirect effects (by simply multiplying the relevant, unstandardized coefficients). Following the procedure described by Shrout and Bolger (2002), we ordered each of the 1,000 bootstrapped indirect effects and then bounded the lower and upper ends of 95% CI by the indirect effects estimates at the 25th and 975th percentiles, respectively. The indirect effect from Self-Critical Perfectionism to Emotional Dysregulation was $\beta = .78$; the mean indirect effect was $\beta = .115$, SE = .0005, 95% CI = .084, .152. The indirect effect from Personal Standards Perfectionism to Emotional Dysregulation to Psychological Distress was $\beta = -.37$, the mean indirect effect was $\beta = -.074$, SE = .0006, 95% CI = -.116, -.038. Because

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2 We are grateful to Meifeng Wei for assisting us with statistical programming and procedures to create the bootstrap samples and confidence intervals.
neither CI included zero, both indirect effects could be considered statistically significant at $p < .05$.

Testing alternative theoretical models to avoid confirmation bias that can occur when testing only one model has been emphasized in the literature (MacCallum & Austin, 2000; McDonald & Ho, 2002); however, the present study entailed cross-sectional data that would not allow for rigorous inferences regarding causal or longitudinal relations among variables (D. A. Cole & Maxwell, 2003). From a statistical perspective, possible alternative models that we could have conceived (e.g., Emotional Dysregulation as the predictor, Perfectionism as the mediator, and Psychological Distress as the outcome) would have had identical fit indices, and the current design would not have allowed comparisons between such models, and therefore they were not examined.

Discussion

The primary purpose of this study was to test a model in which the association between perfectionism and Psychological Distress was mediated by Emotional Dysregulation. There is a tendency in the literature to focus on maladaptive aspects of perfectionism while discounting or ignoring potential adaptive aspects. The findings concerning both maladaptive and adaptive perfectionism were extended in this study by examining the effects associated with each facet of perfectionism. On the basis of subscale groupings of Hewitt and Flett’s MPS (1991) and Frost et al.’s MPS (1990), we found support for two dimensions of perfectionism: a Personal Standards Perfectionism or adaptive dimension and a Self-Critical Perfectionism or maladaptive dimension. The adaptive dimension describes individuals who set high personal standards. The maladaptive dimension describes individuals who set high standards of performance, experience extreme concerns about making mistakes, and perceive that others hold expectations of them that are excessive and uncontrollable. Indeed, as expected and consistent with other research, we found important differences between the two perfectionism dimensions in terms of Psychological Distress and Emotion Dysregulation. Maladaptive Self-Critical Perfectionism does appear to have important implications for psychological difficulties, whereas adaptive Personal Standards Perfectionism appears to have inverse and significant associations with Psychological Distress, suggesting an adaptive element to high performance expectations. The same pattern was found with regard to the relationship between the two dimensions of Perfectionism and Emotional Dysregulation.

The main finding of this study with regard to the mediational model was that the primary putative mediator, Emotional Dysregulation, fully accounted for the association between both aspects of perfectionism and Psychological Distress. However, for further discussion of this and other findings, one must weigh the possibility of suppression effects in the current analyses. The positive and rather high correlation between Personal Standards Perfectionism and Self-Critical Perfectionism combined with several of the results from the path analyses suggested the possibility that Personal Standards Perfectionism could be conceptualized as a suppressor variable. Specifically, when both dimensions of Perfectionism were included in the structural path models, the previously positive correlations between Personal Standards Perfectionism and Emotional Dysregulation and Psychological Distress were transformed to significantly negative path coefficients. Compared

![Figure 1. Structural equations model of Emotional Dysregulation fully mediating the effects of Perfectionism on Psychological Distress (N = 346). CM = Concerns Over Mistakes; SPP = Socially Prescribed Perfectionism; SOP = Self-Oriented Perfectionism; PS = Personal Standards; ER = Emotional Reactivity; SI = Splitting Index; SOM = Somatization; OC = Obsessive–Compulsive; SC = Social Comfort; DEP = Depression; HOS = Hostility; PA = Phobic Anxiety. All parameter estimates were significant, $p < .05$.](image-url)
with the correlation analyses, the direction of effects did not change when we examined structural paths associated with Self-Critical Perfectionism, but the size of the effects were substantially enhanced when Personal Standards Perfectionism was also in the model. As Shrout and Bolger (2002) pointed out, suppression and mediation models are closely related and similarly analyzed; furthermore, when theoretically expected or substantial, total effects “must be interpreted with caution” (p. 432). As MacKinnon, Krull, and Lockwood (2000) noted, distinctions between mediation and confounding must be made on conceptual more than on statistical grounds.

Suppression was not theoretically expected but is understandable and not necessarily problematic in the current study. Personal Standards Perfectionism and Self-Critical Perfectionism, when operationalized using the measures adopted in the current study, reveal that in a more purified examination of the association between a presumed adaptive aspect of Perfectionism (Personal Standards) and a mediator or outcome, one must first control for any maladaptive or unhealthy aspect of Perfectionism (self-criticism). Some measures, such as the Almost Perfect Scale—Revised (APS–R; Slaney et al., 2001; Slaney, Mobley, Trippi, Ashby, & Johnson, 1996), yield essentially orthogonal adaptive and maladaptive dimensions of perfectionism. Scores on the APS–R High Standards and Discrepancy subscales (tapping self-critical evaluations of performance and expectations) tend to correlate in the .00–.05 range (e.g., Grzegorek et al., 2004), although in some instances, the correlations have been in the negative direction but still have been small in magnitude (e.g., Mobley et al., 2005, reported a correlation of –.16). In contrast, studies using subscales from either of the two versions of MPS used in the present study (i.e., FMPS or MPS) typically report significant moderate to large correlations between the personal standards indicators (Personal Standards Perfectionism on Frost et al.’s [1990] measure, Self-Oriented Perfectionism on Hewitt & Flett’s [1991] measure) and indicators of presumed more maladaptive Perfectionism. For example, correlations between scores on the Personal Standards and Concern Over Mistakes subscales tend to be in the .50 range and correlations between the scores on the Self-Oriented and Socially Prescribed Perfectionism subscales tend to be in the .40 range (Enns, Cox, & Clara, 2002; Rice & Dellwo, 2002; Shea et al., 2006).

One could certainly interpret these overlaps as “noise” or “irrelevant variance . . . shared with the predictor and not with the criterion” (Pedhazur, 1982, p. 104) or otherwise problematic in the analyses (see Dunkley et al., 2003, regarding their decision to exclude the Personal Standards Perfectionism score from subsequent models in part because of the suppression effects). A conceptually plausible alternative understanding of these effects underscores the variance as being far from irrelevant in a broader sense. Controlling for the possible adaptive aspects of perfectionism (Personal Standards Perfectionism) in an analysis of the effects of Self-Critical Perfectionism serves to purify the maladaptive dimension and thereby enhances its effects in association with other variables. In that sense, in the current study, Self-Critical Perfectionism became a stronger predictor of Emotional Dysregulation and Psychological Distress than it had appeared to be in the correlations from the measurement model. Likewise, when controlling the maladaptive dimension, the effects of Personal Standards Perfectionism became more clearly adaptive than they appeared to be in the measurement model when they were at least somewhat saturated with maladaptive concerns associated with high standards. For these reasons, future research investigating adaptive and maladaptive perfectionism would be well served if either orthogonal indicators of those constructs or regression techniques were used to obtain more purified indicators for analysis. In the following discussion, the results are discussed from this latter perspective.

Consistent with the mediation model supported in this study, it has become increasingly clear that personality processes play an important role in maintaining consistent levels of emotion over time (Diener, Suh, Lucas, & Smith, 1999). Perfectionism is a pervasive personality characteristic that, in its maladaptive form, involves a tendency to perceive and focus on failure. Individuals with maladaptive perfectionistic tendencies constantly strive for perfection, are unable to be satisfied with what ordinarily might be considered success or superior achievement, and may show greater emotional vulnerability to daily hassles and stresses (Dunkley et al., 2003). Thus, a relatively minor failure or even a perceived failure becomes magnified, resulting in negative affect and further increase in reactivity to stimuli and events in their lives. As a result, these individuals engage in maladaptive coping strategies such as disengagement and denial (Dunkley et al., 2003) or use immature defense styles such as somatization, projection, and splitting (Blankstein & Paduada, 2001). Emotional dysregulation and defense mechanisms maintain perfectionists’ negative affect and prevent them from moving beyond the distress associated with perceived stressful situations (Dunkley et al., 2003). Consequently, persons with maladaptive perfectionistic characteristics are prone to different forms of psychological distress because of their problematic emotional regulation strategies.

Even though they have high performance standards, individuals who demonstrate adaptive perfectionism seem to have better emotional-regulating strategies than those who demonstrate maladaptive perfectionism. Although individuals with adaptive perfectionistic traits have high standards of performance, it is likely that their notions of success and failure are more flexible. Thus, they probably have the ability to take a break from self-scrutiny and self-evaluations when doing so is necessary and appropriate. The results suggest that individuals with adaptive perfectionism have emotional self-soothing or regulatory mechanisms to maintain and enhance their healthy psychological functioning. These mechanisms may play a role in modulating negative affectivity and, in light of other findings regarding the high self-esteem of adaptive perfectionists (Grzegorek et al., 2004; Rice & Slaney, 2002), also likely nourish positive affectivity. In short, these regulatory mechanisms possibly help those with adaptive perfectionistic tendencies to learn more appropriate ways of maintaining positive affect and constructively handling their negative emotions, which in turn leads to healthier adjustment.

The results and conjectures regarding adaptive Personal Standards Perfectionism, however, run somewhat counter to findings by Dunkley et al. (2003) and Blankstein and Dunkley (2002). In their research and in the current study, the association between Personal Standards Perfectionism and Self-Critical Perfectionism (or Evaluative Concerns Perfectionism) was comparable. However, the effects of Personal Standards Perfectionism on coping and stress either were not significant (Dunkley et al., 2003) or were significant only for active coping, which in turn did not signifi-
cantly predict Psychological Distress (a combination of depression and anxiety; Blankstein & Dunkley, 2002). The key difference between the studies is in the mediator(s). The current study focused specifically on Emotional Dysregulation as operationalized by the degree of emotional reactivity and splitting. Individuals with high scores on the Emotional Reactivity subscale have endorsed items revealing themselves to be overly emotional and sensitive, to be on an "emotional roller coaster," and to have difficulty letting things go after becoming upset. Individuals with high scores on the Splitting Index have described themselves as experiencing dramatic emotional shifts, sometimes from moment to moment in relation to themselves as in reaction to others and as feeling pulled apart by their feelings. In contrast, Personal Standards Perfectionism was associated with lower scores on Emotional Dysregulation, suggesting that people with such perfectionistic tendencies experience more stability and continuity in their emotions and that this emotional leveling appears to pay dividends in terms of fewer psychological symptoms. Although this research did not address precursors, other findings suggest that these perfectionistic individuals may well have developed self-soothing capacities in the context of secure and supportive attachment bonds with others (Calkins, 2004; Cassidy, 2000). In other research examining mediational models involving perfectionism and psychological functioning, the focus has been primarily on coping and stress with implicit attention to emotional regulatory reactions or processes. The findings from the current study suggest that a direct focus on emotional regulation is warranted in studies of and interventions with perfectionistic individuals. Indeed, future research might examine the distinct, additive, and possibly interactive effects of coping and emotional regulation in the relationship between adjustment and perfectionism.

From the standpoint of presumed causal links, the results support a potential set of directional effects in which maladaptive perfectionism leads to an inability to effectively regulate emotional responses, which in turn leads to higher levels of psychological distress. Conversely, adaptive perfectionism leads to more stable emotional reactions that may lessen the likelihood of adaptive perfectionists developing psychological problems. The correlational nature of the study design, however, indicates that these causal contentions should be examined in longitudinal or experimental research to support the case for such causal con strictures. Although it seems plausible that the effects of Perfectionism on Emotional Dysregulation and then on Psychological Distress could be concurrent and instantaneous and that these directional interrelations may be relatively stable over time (MacCallum & Austin, 2000), it is also plausible that the effects of Perfectionism could be more distant than proximal, such that subsequent psychological functioning rather than coincident functioning may be a more compelling dependent variable. Future correlational multivariate panel designs could address this and other possibilities and better model important time lags between predictors (Perfectionism) presumed to affect later mediators (Emotional Dysregulation), which are presumed to affect later outcomes (Psychological Distress; D. A. Cole & Maxwell, 2003). In experimental research, general tendencies regarding emotional dysregulation, as assessed in the present study, could be addressed via studies designed to reveal varying degrees of emotional control in different situations. Furthermore, a tendency to effectively or ineffectively modulate emotional reactions probably results from other behaviors and personal and interpersonal experiences not captured in the present study but worthy of future attention in research on perfectionism.

Clinical models of psychological distress and therapeutic change consider emotion regulation strategies to be critical factors in the etiology of maladjustment and in therapeutic change, and thus emotion regulation is an implied or explicit goal of most treatment models (Greenberg, 2004; Greenberg & Safran, 1989). The emotional dysregulation association with both perfectionism and psychological symptoms, coupled with the possibility that perfectionism is a pervasive personality characteristic, suggests that addressing emotion regulation, via psychotherapeutic or psychoeducational interventions, could be beneficial for clients exhibiting maladaptive perfectionism. Counselors encountering clients who demonstrate psychological distress such as symptoms of depression, anxiety, somatization, or obsessive–compulsiveness might be advised to assess both for maladaptive perfectionism and emotion regulation concerns. How do such clients tend to react emotionally to others, especially to close significant others? How do performance expectations play a role in the strength or fluctuation of emotional reactivity? Such clients might benefit from learning about dimensions of perfectionism and considering their possible effects on behaviors and emotions.

It seems likely that individuals with maladaptive perfectionistic tendencies, almost by definition but certainly supported in the present research, would tend to view challenging situations in rather dichotomous ways, and emotional reactions to situations and others, including helping agents, are likely to be inapt and furtive. Strategies directed at helping clients with better regulating their emotional sensitivity and reducing their tendency to experience things (and people) as perfect or flawed could then, in turn, reduce the effects of maladaptive perfectionism on symptoms. An imperative strategy in treating perfectionism involves understanding differences in emotionality that distinguish maladaptive from more adaptive functioning. Ochsner and Gross (2004) described five types of emotion regulation strategies, one or more of which might be beneficial in treating perfectionistic clients: situation selection or situation modification to modify appraisal inputs or cues regarding emotionally relevant situations, attentional deployment to focus on some cues more than others in the appraisal process, cognitive change to modify meanings of cues to which they attend, and response modulation to control the output or manner in which emotion is expressed. The aims of future research may be to identify specific contexts and regulation processes by which emotional patterns exhibited by perfectionistic individuals evolve into dysregulated patterns of affect conducive to psychological distress and to identify the types of regulation strategies that are more evident in those with adaptive perfectionism and more effective in counseling clients with maladaptive perfectionism.

There are several limitations to the current study, including reliance on self-reports, failure to track response rates across the various recruitment strategies and settings, and the related issue of external validity limitations, given the nature of the sample. Future research might examine the stability of perfectionism–emotional regulation associations over time and in a variety of circumstances and populations (e.g., college students vs. noncollege-educated adults, young vs. older adults, clinical vs. nonclinical samples). The relative adaptiveness of perfectionism may be moderated by setting or other as yet untested situational or personological var-
ables. Additional research appears warranted to replicate the current findings and to further investigate which aspects of perfectionism are beneficial under which conditions. Other questions emerging from this study that merit further investigation relate to how perfectionism changes and what types of interventions are effective in decreasing maladaptive aspects of perfectionism while increasing or enhancing adaptive aspects.

In summary, complete mediation was revealed between perfectionism and psychological symptoms. Additional research seems warranted to test models that will help further understanding of the complex relationship between perfectionism and its adaptive and maladaptive effects. The results of such investigations will facilitate development of more suitable approaches to assessing and treating perfectionism and to evaluating outcomes associated with perfectionism.

References


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